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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,153	02/07/2006	Andrew Goldsmith	3165-138	9052
6449 7590 01/05/2009 ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005				
EXAMINER PRYOR, ALTON NATHANIEL				
ART UNIT		PAPER NUMBER		
1616				
NOTIFICATION DATE		DELIVERY MODE		
01/05/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

### Office Action Summary

**Application No.**

10/553,153

**Applicant(s)**

GOLDSMITH, ANDREW

**Examiner**

ALTON N. PRYOR

**Art Unit**

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-23 and 26-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-23, 26-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicant's arguments filed 8/18/08 have been fully considered but they are not persuasive. See discussion below.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-23, 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koppenhagen et al (WO 0005951; 2/10/00) and Martin (EP 279068; 08/24/88). Koppenhagen teaches an aqueous (flowable) composition comprising pesticides such as herbicides, which control weed growth in plants. See abstract, page 1, 2<sup>nd</sup> paragraph, page 15, 1<sup>st</sup> full paragraph, page 6, 1<sup>st</sup> full paragraph. Koppenhagen teaches the encapsulated material comprising a surfactant. See page 6, 1<sup>st</sup> full paragraph. Koppenhagen teaches that the surface active (surfactant) can be any wide variety of compounds known to lower the surface tension of a fluid interface, including both nonionic and anionic surfactants. See page 17, 2<sup>nd</sup> full paragraph. Koppenhagen teaches the encapsulated material comprising inorganic compounds such as alkali hydroxides. See claim 35. Koppenhagen teaches the use of a resin of urea-formaldehyde polymer for encapsulating the herbicide. See page 16, 1<sup>st</sup> full paragraph – 3<sup>rd</sup> full paragraph. Koppenhagen teaches a capsule suspension containing two materials with one material being encapsulated and the other contained in the aqueous

phase. See page 23, 1<sup>st</sup> paragraph, claims 1,29-32. Koppenhagen does not teach pendimethalin as the herbicide, the anionic oligomers or polymers recited in claim 20, the specified neutral surface-active boron containing compound (see claim 22) and the instant ratio of microencapsulated pendimethalin to non-encapsulated pendimethalin. However, Martin teaches that pendimethalin is a herbicides. Therefore it would have been obvious to one having ordinary skill in the art to make a flowable composition comprising both encapsulated and non-encapsulated pendimethalin. One would have been motivated to do this because Koppenhagen broadly teaches the making of an aqueous composition comprising both an encapsulated and non-encapsulated herbicide. Additional motivation would be the production of a composition that would have an immediate to longer effect on weed control in plants. With respect to the invention comprising the instant oligomers or polymers, the instant inorganic compounds (salts), and the instant boron-containing non-ionic surfactant, Koppenhagen suggests the use of a wide range of surface active agents including anionic and nonionic. Therefore it would have been obvious to one having ordinary skill in art to use the boron-containing surface active agent in Koppenhagen's invention. One would have been motivated to do this since Koppenhagen specifically discloses that a wide range of anionic and nonionic surface active agents can be used in the invention. Koppenhagen teaches the use of polymer shells comprising a polymer of urea and formaldehyde. In the absence of a showing that instant polymers (see claim 20) provide unexpected results over Koppenhagen's polymer made from formaldehyde and urea, the Koppenhagen's polymeric material makes instant polymeric material obvious. Both the

instant and prior art polymers serve the same purpose, i.e. for the controlled release of the active ingredient contained therein. With respect to the ratio and amounts / concentration of ingredients, one having ordinary skill in the art would have been motivated to determine the optimum amount of each ingredient of the instant invention. One would have been motivated to do in order to develop an invention that would have been effective at controlling weeds without destroying the desired plant. In the absence of unexpected results for the instant surfactants, Koppenhagen makes the instant surfactants obvious. Note Koppenhagen is open to a wide variety of anionic and nonionic surfactants including the instant surfactants absent a showing of the criticality of the instant surfactants.

*Response to Applicants' previous argument still applicable now*

The Applicants argue:

The combination of Koppenhagen and Martin would not render obvious the present invention and that one of ordinary skill would not have a reasonable expectation of success in combining the disclosures of Koppenhagen and Martin to arrive at the present invention.

The capsule suspension contains two materials that are incompatible with each other. In other words, Koppenhagen teaches an aqueous composition comprising two different materials, one of which is encapsulated and the other which is an aqueous phase.

Koppenhagen discloses a microcapsule produced from an aminoplast shell wall and an encapsulated ingredient, where the aminoplast shell comprises an ester-

containing crosslinking unit which renders that shell sensitive to base and triggers the release of the encapsulated contents on exposure of the capsule to basic conditions (p. 1, 1st full paragraph; p.3, 2nd full paragraph; p.4, para. 3). This is contrary to the composition of the microcapsule of the instant claims (claim 16).

Kopenhagen disclosure of the microcapsule would not enable the microcapsule of the instant invention. Kopenhagen on p. 23 1<sup>st</sup> full paragraph does not disclose such as example and it must be noted that Kopenhagen stresses that such a combination is reasonable if the two materials are incompatible to avoid undesirable interaction between the two chemicals. Kopenhagen only uses the disclosed arrangement because the two pesticides in the aqueous composition are incompatible. There would be no advantage to use the same pesticide both inside and outside the capsule of Kopenhagen.

Kopenhagen does not disclose an encapsulated herbicide (pendimethalin) but rather an encapsulated insecticide.

The Examiner employs hindsight in stating that it would have been obvious to combine encapsulated and non-encapsulated pendimethalin to gain immediate and control release of pendimethalin.

With respect to instant invention, aqueous flowable compositions suffer from a poor storage stability since pendimethalin tends to form large crystals upon aging, which results in an increased settling of pendimethalin particles (page 1, lines 16-25).

The inventors of instant invention found that it is not necessary to completely encapsulate each particle of pendimethalin to obtain good storage stability of the

aqueous flowable composition of the present invention. But that only a portion of the non-encapsulated pendimethalin particles of the present invention needs to be encapsulated in the composition to achieve a storage stability comparable to the storage stability of an aqueous flowable composition containing exclusively microencapsulated pendimethalin. Applicant refers the Examiner to page 11, table 1 of the instant specification for storage stability at 45 degree C of conventional suspension concentrate versus instant composition having both encapsulated and non-encapsulated pendimethalin. The convention suspension provides almost 25X as much coarse material (i.e. 0.74% by weight) than the composition of the instant invention (provides 0.03% coarse material).

The examiner argues that Martin is only used to point that pendimethalin is a herbicide since Koppenhagen teaches herbicides broadly without a specific reference to pendimethalin. Although Koppenhagen teaches a combination of two incompatible ingredients, one of which is encapsulated and the other which is nonencapsulated, it would have been advantageous to make a composition comprising same material where a portion of material is encapsulated and the other portion is nonencapsulated at the time of Koppenhagen's invention. One would have been motivated to do this in order to make composition that would have both control and immediate release of the same active. The fact that Koppenhagen teaches the encapsulation of an insecticide as opposed to the encapsulation of a herbicide is insignificant. It is very well known to make formulations comprising both the encapsulation and non-encapsulation of an active ingredient in order to gain both immediate and slow release of the ingredient.

This is not hind-sight creation of an invention since the concept of producing a formulation comprising the encapsulation and non-encapsulation of an active ingredient is well known in the art. Referring to results on page 11 in Table 1, there appears to be no significant difference in the storage stability of instant composition comprising both encapsulated and nonencapsulated pendimethalin in comparison to the convention suspension comprising only nonencapsulated pendimethalin or a composition comprising exclusively encapsulated pendimethalin. In addition, Table 1 on page 11 discloses data for the "Composition of the invention" and "Microcapsule composition". The data appears to be close for the two compositions at 45 degree C for 12 weeks and 37 degree C for 26 weeks. Also, the limitation of the type of polymer recited in claim 16 is not required in the independent claim(s).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



***Telephonic Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alton N. Pryor whose telephone number is 571-272-0621. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alton N. Pryor/  
Primary Examiner, Art Unit 1616